Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0

Statistical Tables

for a Discussion of

Capital Formation in the People's Republic of China

[redacted]

STAT

January 2, 1975

Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0

Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0

Tables 1 through 7 will be used for a discussion of two major studies of capital formation in China during the 1950s. That by K. C. Yeh was derived from aggregative data published by the Chinese, whereas that by Kang Chao was built up by the commodity flow method. The discussion will attempt to explain the differences between the estimates.

Tables 8 through 14 will be used as the basis for a discussion of capital formation in China since 1957. Because no aggregative data have been published, information on machine-building, imports of machinery and equipment, and construction activity will be used to assess the situation.

Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0

Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0

Table 1

K. C. Yeh's Estimate of
Gross Domestic Capital Formation
1952 - 1957

Million of 1952 yuan

	1952	1953	1954	1955	1956	1957
Net domestic expenditure	62,860	71,600	73,920	79,330	88,150	92,510
Percentage of accumulation in net domestic expenditure	18,200	22,400	23,500	22,900	26,100	23,960
Accumulation	11,440	16,040	17,370	18,170	23,010	22,170
Less: ancillary expenses	440	750	890	960	1,640	1,530
Add: Investment by work brigades	620	380	440	750	810	850
Less: understatement of depreciation	320	520	640	770	1,340	1,210
Less: overstatement of hog output	--	--	--	--	--	2,040
Equals: net domestic capital formation	11,300	15,150	16,280	17,190	20,840	13,240
Depreciation	3,260	3,660	4,030	4,270	5,200	5,480
Gross domestic capital formation	14,560	18,810	20,310	21,460	26,040	23,720

Source: Kung-Chia Yeh, Capital Formation in Mainland China: 1931-36 and 1952-57, Ph.D. Thesis, Columbia University, 1964, p. 329.

Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0

Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0

Table 2

K. C. Yeh's Estimate of
Gross Domestic Capital Formation,
by Type of Investment
1952 - 1957

Million of 1952 Yuan

	1952	1953	1954	1955	1956	1957
A. In 1952 Prices						
Gross domestic capital formation	14,570	18,810	20,310	21,460	26 040	23,720
Inventory change	6,910	7,280	7,660	6,830	2,090	3,950
Fixed capital formation	7,660	11,530	12,650	14,630	23,950	19,770
Construction	5,180	7,830	8,680	9,470	15,210	12,340
Equipment	2,470	3,700	3,970	5,160	8,740	7,450
B. In 1933 prices						
Gross domestic capital formation	5,340	6,640	7,130	7,250	7,710	7,360
Inventory changes	3,140	3,310	3,480	3,100	950	1,800
Construction	1,700	2,580	2,850	3,110	5,000	4,060
Equipment	500	750	800	1,040	1,760	1,500

Source: Kung-Chia Yeh, Capital Formation in Mainland China: 1931-36 and 1952-57, Ph.D. Thesis, Columbia University, 1964, p. 337.

Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0

Table 3

Kang Chao's Estimate of
Gross Domestic Fixed Capital Formation
1952 - 1957

Million 1952 yuan

	1952	1953	1954	1955	1956	1957
Construction and installation	4,789	7,385	9,401	10,062	15,622	13,989
Domestic production of machinery and equipment	950	1,234	1,596	2,081	3,167	2,765
Net imports of machinery and equipment	524	733	700	746	1,148	1,189
Office furniture and tools	44	59	69	85	129	119
Other rural investment	1,846	2,134	2,114	2,459	2,714	2,782
Total fixed capital investment	8,153	11,545	13,880	15,433	22,780	20,844

Source: Kang Chao, Capital Formation in Mainland China, 1952-1965, Berkeley, 1974, p. 70.

Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0
Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0

Table 4

Gross Value of Construction
1952 - 1956

Million 1952 Yuan

	1952	1953	1954	1955	1956
Gross value of construction a/	4,560	7,460	8,240	8,730	14,400
Materials and depreciation b/	2,730	4,800	5,210	5,340	9,430
Materials in Chao's sample c/	1,691	2,932	3,942	4,058	5,336
Sample as a percent of all materials	61.9	61.1	75.7	76.)	67.2
Net Value d/	1,830	2,660	3,030	3,390	4,970
Chao's wage bill e/	598	943	1,105	1,088	1,368
Wage bill as a percent of net value	32.7	35.5	36.5	32.1	27.5
Chao's estimate of investment by work brigades f/					
Total	401	288	250	525	1,157
Included in investment data	172	123	107	225	496
Not included in investment data	229	164	143	300	661
Chao's Total					
My calculation value g/	2,690	4,163	5,297	5,671	8,861
Index as published	100.0	154.8	196.9	210.8	329.4
Value h/	2,463				
Index i/	100.0	154.2	196.3	210.1	326.1

Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0
Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0

Notes from Gross Value of Construction 1952 - 1956:

a/ For 1952 and 1956, see Yang Po, "On the Distribution of National Income in China," CCYC, No. 6, 1957, p.5. For 1953-1955, derived from data in Lei Chi-chuan, "Certain Problems of Accumulation during China's First Five-Year Plan," Tsai-Ching K'o-hsueh (Financial and Economic Science), No. 2, 1957, p.5.

b/ Derived as the difference between gross value and net value.

c/ Calculated from price and output data in Kang Chao, The Construction Industry in Communist China, Chicago, 1968, pp. 202 and 211. The output series include steel, timber, cement, plate glass, and other building materials.

d/ Derived from Chinese data on national income and the proportion of income originating in construction. For the calculations and original sources, see Chao, op. cit., p. 217.

e/ Calculated from data on wages and on the average number of workers in Chao, op. cit., pp. 202 and 211.

f/ Calculated from data in Tables A-3, A-4, A-5, and A-11 in Chao, op. cit., pp. 195-196 and 216.

g/ Derived as the sum of materials in Chao's sample, Chao's wage bill and Chao's estimate of total investment by work brigades.

h/ Chao, op. cit., p. 59.

i/ Chao, op. cit., p. 57.

Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0
Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0

Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0

Table 5

Investment by Work Brigades
1952 - 1957

	1952	1953	1954	1955	1956	1957
Estimates by Li-tan Yeh						
Earthwork accomplished a/ (million cubic meters)						
Water conservancy	1,110	541	659	1,415	1,500	1,650
Railroad construction	68	43	68	86	135	64
Highway construction	24	21	15	18	38	49
Total	1,202	605	742	1,519	1,673	1,763
Investment by work brigades b/ (million 1952 yuan)						
Water conservancy	440	220	260	570	600	660
Railraod construction	30	20	30	30	50	30
Highway construction	10	10	10	10	20	20
Militia service	140	140	140	140	140	140
Total	620	380	440	750	810	850
Estimates by Chao						
Earthwork accomplished c/ (million cubic meters)						
Water conservancy	1,100	760	630	1,400	2,900	2,920
Railraod construction	21	31	37	56	247	63
Highway construction	24	32	47	44	158	137
Total	1,144	822	714	1,500	3,305	3,121

Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0

Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0

Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0

Investment by Work Brigades
1952 - 1957
(Continued)

	1952	1953	1954	1955	1956	1957
Estimates by Chao (continued)						
Investment by work brigades c/ (Million 1952 yuan)						
Total	401	288	250	525	1,187	1,092
Included in Investment data	172	123	107	225	496	468
Not included in investment data	229	164	143	300	691	624

Notes: a/ Ta-chung Liu and Kung-Chia Yeh, The Economy of the Chinese Mainland: National Income and Economic Development, 1933-1959, Princeton, 1965, pp. 611-619.

b/ Liu and Yeh, op. cit., p. 171.

c/ Calculated from data in Tables A-3, A-4, and A-11 in Kang Chao, The Construction Industry in Communist China, Chicago, 1968, pp. 195-197 and 216.

Table 6

Gross Value of output for the machine-building industry in 1952

	(million 1952 yuan)		
	Total	Socialist Enterprises	Private Enterprises
Total	1,420 a/	950 a/	470 a/
First Ministry of Machine-Building	570 b/	570 b/	---
Ministry of Electrical Equipment	240 c/	240 c/	---
Other organizations	610 d/	140 d/	470 d/

a/ State Statistical Bureau, Wo-kuo kang-t'ieh tien-li mei-t'an chi-hsieh fang-chih tsao-chih kung-yeh ti chin-hsi (Chinese Iron and Steel, Electric Power, Coal, Machinery, Textile, and Paper Industries -- Past and Present) (Peking, 1958), pp.122 and 140.

b/ Chang Kuang-en, "There is a great deal of latent capacity. See whether you can unearth it", Chi-hua ching-chi, No. 4, 1958, p. 25.

c/ Estimated by Cheng to be 17% of the total. See Cheng, Machine-Building, p. 82.

d/ Residual.

Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0
Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0

Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0

Table 7

Commodities Produced by the Ministry of Electrical Equipment

Category	Commodity
Machine Building	
Power equipment	
	Hydroturbines
	Electric generators
	Electric motors
Electric Equipment	
	Transformers
	High-voltage circuit breakers
	Switch boards
	Storage batteries
Metal Products	
Meters and testing equipment	
	Electric instruments and meters
Electric wires	
	Bare copper wire
	Rubber-covered wire
	Electric power cables
	Telecommunications cables

Notes and Sources: The categories are listed in State Statistical Bureau, Kung-yeh ch'an-p'in mu-lu (Index of Industrial Commodities), Peking, 1953. The commodities are listed in Tien-chi kung-yeh (Electrical Machinery Industry), No. 10, 1957.

Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0

Table 8

Alternative Indexes for the Machine-Building Industry 1957-1973

	Official	Cheng		Chao		Rawski			Field
1957	100	100	100	100	100	100	100	100	100
1958		180	224	209	214				175
1959		252	346	327	365				238
1960		305	358	291	454				271
1961		152	174	147	208				116
1962		122	153	81	182	131	201		154
1963		146	196	78	275	157	241		177
1964		168	242	137	327	181	278		223
1965	501	236	326	184	397	244	375	509	271
1966		283	350			318	488		331
1967		227							278
1968		283							301
1969		345							451
1970	1,102	396							567
1971	1,300	467						1,058	639
1972	1,404							1,529	671
1973								1,918	745

Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0
Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0

Sources for Alternative Indexes for the Machine-Building Industry 1957-1973

Official:

1965: Derived from the statement that output in 1972 was 2.8 times that of 1965. See FBIS, September 19, 1973, B10.

1970: Derived from the 18 percent increase reported for 1971. See BBC, FE/W655/A13, 1972.

1971: Derived from the statement that output in 1971 was 13 times that of 1957. See Peking Review No. 48, 1972, p.17.

1972: Derived from the 8 percent increase reported for the first 8 months of 1972. See BBC, FE/W694/ A11, 1972.

Cheng:

1957-1966: Chu-Yuan Cheng, The Machine Building Industry in Communist China, Chicago, 1971, p. 114.

1967-1971: Chu-Yuan Cheng, "China's Machine Building Industry", Current Scene, July 1973, p. 4.

Chao: Kang Chao, Capital Formation in Mainland China, 1952-1965, Berkeley, 1974, pp. 31, 57, and 67.

Rawski: Thomas G. Rawski, "Chinese Industrial Production", Review of Economics and Statistics, Vol. 55, No. 2, 1973, p. 180, and Thomas G. Rawski, "Measuring China's Industrial Performance, 1949-1973."

Field: Tables 11 and 12

Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0
Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0

Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0

Table 9

The Official and the Field Indexes for the Machine-Building Industry, Selected Years, 1957-1972

	Official			Field		
	1957=100	1965=100	Percentage Change	1957=100	1965=100	Percentage Change
1957	100			100		
1965	501	100		271	100	
1970	1,102	220		567	210	
1971	1,300	259	18	639	236	13
1972	1,404	280	8	671	248	5

Source: Table 8

Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0

Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0

Table 10

Gross Value of Industrial Output,
by Major Categories,
1957 and 1970

	1957	1970	Index (1957=100)
Total	78,390	257,427	328
Producer goods	37,940	143,128	377
Machine-building	6,177	68,052	1,102
Other	31,763	75,076	236
Consumer goods	40,450	114,299	283

Sources:

1957:

Total, producer goods and consumer goods: State Statistical Bureau, Ten Great Years, Peking, 1960, p. 87.

Machine-building: Derived from the gross value of industrial output excluding handicrafts and the value of machine-building as a percent of total. See State Statistical Bureau, op. cit., pp. 16 and 92.

Other: Derived as producer goods less machine-building.

1970:

Total: Field, Lardy, Emerson, A Reconstruction of the Gross Value of Industrial Output, forthcoming.

Producer goods and Consumer goods: Derived from the value of producer and consumer goods in 1949 (see State Statistical Bureau, op. cit., p. 87) and the statement that heavy and light industry in 1970 were 38 and 11 times 1949, respectively (see T'an-t'an tseng-Ch'an chieh-yueh, Shanghai, 1974, p. 7). The derived figures were forced to equal the total; as a result, the figures in the table are 38.4 and 11.1 times 1949, respectively. It is assumed that heavy and light industry refer to producer goods and consumer goods in this context.

Machine-building: Table 8

Other: Derived as producer goods less machine-building.

Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0

Table 11

Output of Commodities Produced
by the Machine-Building Industry
1957-1973

	Electric generators (th Kn)	Machine tools (th units)	Cotton spindles (th units)	Sewing machines (th units)	Power irrigation (th hp)	Standard tractors (15hp units)	Steam locomotives (units)	Diesel locomotives (units)	Freight cars (th units)	Trucks (th units)	Merchant vessels (th tons DSD)
1957	312.2	28.297	484.	278.	52.		167.		7.3	7.5	46.4
1958	1425.	30.	1000.	637.	720.	1.1	346.	2.	11.	16.	56.6
1959		33.	1360.	563.	1255.	9.4	530.	3.	17.	19.1	64.5
1960		38.		676.	1610.	23.8	600.		23.	15.	41.4
1961		30.			700.	16.2	100.		3.	1.	28.2
1962		25.			955.	20.9	25.		4.	14.	23.1
1963		35.			640.	24.6	25.		5.9	10.8	25.8
1964	625.	38.	700.	1257.	860.	29.2	25.	2.	5.7	26.	34.2
1965	780.	44.	1400.	1571.	1150.	32.3	20.	30.	6.6	34.	29.1
1966		48.			1500.	43.1	70.	70.	7.5	47.	19.8
1967		40.				38.1	100.	100.	6.9	34.	22.5
1968		45.				40.4	100.	140.	8.7	31.	48.
1969		55.		1800.		47.3	100.	160.	11.	60.	108.9
1970		70.		2400.		58.6	100.	180.	12.	70.	193.2
1971		75.		3000.	3089.	68.3		200.	14.	86.	231.9
1972	3500.	75.		3300.	4016.	75.2		220.	15.	100.	163.5
1973		80.		3894.	5984.	90.3		240.	16.	110.	161.7

Source: Production of Machinery and Equipment in the People's Republic of China (Forthcoming).

Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0
Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0

Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0

Prices of Commodities Produced
by the Machine Building Industry
1952 and 1957

Commodity	Unit	1952	1957
Steam Boilers	Metric Ton per Hour	15,090	13,700
Hydroturbines	Kilowatt	120.70	53.62
Internal Combustion Engines	Horsepower	150.	147.98
Electric Generators	Kilowatt	91.72	57.14
Electric Motors	Kilowatt	144.01	96.21
Transformers	Kilovolt Amperes	46.34	25.99
Lathes	Unit	12,300	10,200
Looms	Unit	1,500	1,407
Spindles	Unit	12.12	11.00
Sewing Machines	Unit	190.00	108.50
Tilling Tools	Unit	90.00	61.50
Irrigation Water-lifting Machinery	Horsepower		211.83
Standard Tractors	15 HP Unit		10,370
Steam Locomotive	Unit	200,000	181,540
Diesel Locomotive	2000 HP Unit		625,000
Freight Cars	Unit	17,330	15,730
Merchant Vessels	Light-ship Displacement	3,336	3,028
Trucks	Unit		18,000

Source: Prices of Machinery and Equipment in the People's Republic of China, (Forthcoming).

Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0

Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0

Table 13

China: Trade in Machinery and Equipment in Constant 1957 US Dollars

(Million US $)

Year	Imports			Exports 1/		
	Total	Communist 2/	Non-Communist 3/	Total	Communist	Non-Communist
1952	195	180	15	2	2	Negl.
1953	283	257	26	2	2	Negl.
1954	384	368	16	47	47	Negl.
1955	417	394	17	58	57	1
1956	550	505	45	52	50	2
1957	581	514	67	33	30	3
1958	735	666	69	40	33	7
1959	931	873	58	59	50	9
1960	838	790	48	39	33	6
1961	279	254	25	71	67	4
1962	101	86	15	70	65	5
1963	99	76	23	70	59	11
1964	159	101	58	62	52	10
1965	300	157	143	62	45	17
1966	420	205	215	71	49	22
1967	312	135	177	92	72	20
1968	217	127	90	97	74	23
1969	196	115	81	89	63	26
1970	368	168	200	92	48	44
1971	441	244	197	119	55	64
1972	450	266	184	124	63	61
1973	N.A.	356	N.A.	172	97	75 4/

Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0

Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0

Footnotes to Table 13

1. The series for Chinese exports are the same as the current US dollar series. See methodologies in Appendices A and B.

2. The series for imports from the non-Communist countries is the same as the current value series except for 1972-73 See Appendix A.

3. Imports from the non-Communist countries has been deflated into 1957 US dollars by the method described in Appendix B.

4. Preliminary estimate.

Source: People's Republic of China: Foreign Trade in Machinery and Equipment, (Forthcoming).

Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0

Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0

Table 14

China: The Building Materials Index of Construction Activity

	Cement		Timber		Finished Steel		Total Value	Building Materials
	Million Metric Tons	Million Yuan[1]	Million Cubic Meters	Million Yuan[1]	Million Metric Tons	Million Yuan[1]	Million Yuan[2]	Index 1957=100
1949	0.7	46	1.7	211	0.1	38	295	10
1950	1.4	99	2.0	243	0.1	82	423	15
1951	2.5	174	2.3	280	0.2	170	624	22
1952	2.9	200	3.4	410	0.3	215	825	28
1953	3.6	250	6.2	752	0.8	527	1,528	53
1954	4.3	301	7.0	852	0.9	627	1,780	61
1955	4.1	287	7.2	874	1.1	730	1,891	65
1956	5.6	392	11.4	1,390	2.0	1,374	3,155	109
1957	5.8	407	10.6	1,299	1.7	1,189	2,895	100
1958	8.8	612	20.6	2,508	2.6	1,790	4,911	170
1959	10.2	713	20.6	2,513	3.1	2,083	5,309	183
1960	9.0	626	16.5	2,014	2.6	1,800	4,441	153
1961	5.5	383	13.6	1,655	1.6	1,081	3,118	108
1962	4.9	340	14.6	1,783	1.4	945	3,067	106
1963	6.6	464	16.2	1,980	1.9	1,266	3,711	128
1964	8.9	620	17.2	2,103	2.4	1,660	4,383	151
1965	11.2	787	18.8	2,288	3.0	2,070	5,145	178
1966	13.1	915	19.7	2,406	3.5	2,361	5,682	196
1967	11.4	798	15.0	1,834	3.0	2,022	4,655	161
1968	12.1	845	16.0	1,952	3.1	2,099	4,895	169
1969	14.2	995	17.7	2,159	3.6	2,424	5,578	193
1970	14.6	1,024	20.0	2,440	3.6	2,444	5,907	204
1971	15.5	1,084	21.5	2,623	3.7	2,535	6,242	216
1972	17.5	1,223	23.2	2,830	4.1	2,799	6,852	237
1973	18.3	1,278	25.0	3,050	4.2	2,864	7,193	248

1. Derived from unrounded data.
2. Because of rounding, components may not add to the totals shown.

CIA, An Index of Construction Activity in China, Research Aid, A (ER) 74-9, March, 1974, p. 7.

Approved For Release 2005/08/24 : CIA-RDP80B01495R001100080050-0